

Title (en)

CONTACT ARCHITECTURE FOR CAPACITANCE REDUCTION AND SATISFACTORY CONTACT RESISTANCE

Title (de)

KONTAKTARCHITEKTUR FÜR KAPAZITÄTSREDUKTION UND ZUFRIEDENSTELLENDEN KONTAKTWIDERSTAND

Title (fr)

ARCHITECTURE DE CONTACT POUR RÉDUCTION DE CAPACITÉ ET RÉSISTANCE DE CONTACT SATISFAISANTE

Publication

EP 3563410 A4 20200826 (EN)

Application

EP 16925191 A 20161230

Priority

US 2016069513 W 20161230

Abstract (en)

[origin: WO2018125216A1] Solid assemblies having a composite dielectric spacer and processes for fabricating the solid assemblies are provided. The composite dielectric spacer can include, in some embodiments, a first dielectric layer and a second dielectric layer having a mutual interface. The composite dielectric spacer can separate a contact member from a conductive interconnect member, thus reducing the capacitance between such members with respect to solid assemblies that include one of first dielectric layer or the second dielectric layer. The composite dielectric spacer can permit maintaining the real estate of an interface between the conductive interconnect and a trench contact member that has an interface with a carrier-doped epitaxial layer embodying or constituting a source contact region or a drain contact region of a field effect transistor. The trench contact member can form another interface with the conductive interconnect member, providing a satisfactory contact resistance therebetween.

IPC 8 full level

H01L 21/768 (2006.01); **H01L 21/285** (2006.01); **H01L 29/08** (2006.01); **H01L 29/45** (2006.01); **H01L 29/49** (2006.01); **H01L 29/78** (2006.01)

CPC (source: EP US)

H01L 21/02576 (2013.01 - US); **H01L 21/02579** (2013.01 - US); **H01L 21/0262** (2013.01 - US); **H01L 21/26513** (2013.01 - US); **H01L 21/30604** (2013.01 - US); **H01L 21/32115** (2013.01 - US); **H01L 21/76805** (2013.01 - EP); **H01L 21/76831** (2013.01 - EP); **H01L 21/76897** (2013.01 - EP); **H01L 29/0847** (2013.01 - EP US); **H01L 29/401** (2013.01 - EP US); **H01L 29/4175** (2013.01 - US); **H01L 29/45** (2013.01 - EP US); **H01L 29/4991** (2013.01 - EP US); **H01L 29/665** (2013.01 - EP US); **H01L 29/6656** (2013.01 - EP US); **H01L 29/78** (2013.01 - EP); **H01L 21/28518** (2013.01 - EP); **H01L 21/76883** (2013.01 - EP)

Citation (search report)

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- [YA] US 2007181954 A1 20070809 - OIKAWA KOTA [JP]
- [A] US 2016086950 A1 20160324 - EOM DAIL [KR], et al
- See also references of WO 2018125216A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

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DOCDB simple family (application)

US 2016069513 W 20161230; CN 201680091257 A 20161230; CN 202410183094 A 20161230; EP 16925191 A 20161230; EP 21188335 A 20161230; US 201616465489 A 20161230; US 202017085857 A 20201030; US 202217667493 A 20220208; US 202318378472 A 20231010